

CLAIMS

1. A diffusing structure comprising at least one diffusing layer
5 intended to make a light source uniform, characterized in that it comprises at least one thermoplastic sheet designed to filter out part of the electromagnetic wave spectrum of said light source.

2. The diffusing structure as claimed in claim 1, characterized in that the thermoplastic sheet is designed to filter in the wave range between
10 0.28 μm and 0.40 μm .

3. The diffusing structure as claimed in either of claims 1 and 2, which comprises at least one essentially mineral element, preferably a glass substrate, and/or said diffusing layer.

4. The diffusing structure as claimed in one of claims² 1 to 3, which
15 comprises a PVB-based thermoplastic sheet.

5. The diffusing structure as claimed in either of claims 1 and 4, characterized in that it further comprises a reflective polarizer chosen from birefringent multilayers, disperse birefringent phases and cholesteric liquid crystals.

20 6. The diffusing structure as claimed in one of claims 1 to 5, characterized in that it further comprises a reflective polarizer of the wire-grid type.

7. The diffusing structure as claimed in one of claims 1 to 6, characterized in that it further comprises a plastic sheet coated with a
25 transparent metal oxide layer.

8. The diffusing structure as claimed in one of claims 1 to 7, characterized in that it further comprises a plastic sheet for controlling the viewing angle or for shaping the light.

9. The diffusing structure as claimed in claims 1 to 8, characterized in
30 that the thermoplastic sheet is a lamination interlayer.

10. The diffusing structure as claimed in one of claims 1 to 9, characterized in that it further comprises the LCD matrix assembly.

11. The diffusing structure as claimed in any one of claims 1 to 10,

characterized in that it incorporates a substrate, the diffusing layer being deposited on one of the faces of said substrate, whereas the thermoplastic sheet is deposited on the opposite face of said substrate.

12. The diffusing structure as claimed in any of claims 1 to 11,
5 characterized in that the diffusing layer comprises a diffusing plastic film, preferably with a thickness not exceeding 400 μm .

13. The diffusing structure as claimed in any one of claims 1 to 12,
characterized in that the diffusing layer comprises a diffusing layer composed of elements comprising particles and a binder, the binder allowing the
10 particles to agglomerate.

14. The diffusing structure as claimed in claim 13, characterized in that the particles are metal or metal oxide particles.

15. The diffusing structure as claimed in either of claims 13 and 14, characterized in that the size of the particles is between 50 nm and 1 μm .

15 16. The diffusing structure as claimed in one of claims 13 to 15, characterized in that the binder is a mineral binder.

17. The diffusing structure as claimed in any one of claims 1 to 16, characterized in that it has a thickness substantially between 0.5 and 3 mm.

18. The diffusing structure as claimed in any one of claims 1 to 17,
20 characterized in that it incorporates a coating having a functionality other than that of filtering out part of the electromagnetic wave spectrum emitted by said light source, especially a coating chosen from those having a low-emissivity, antistatic function, an antifogging function or an antisoiling function.

25 19. The diffusing structure as claimed in one of claims 1 to 18, characterized in that it comprises a glass substrate on which the diffusing layer and said sheet are placed, the glass substrate having a light transmission T_L of not less than 90% and preferably not less than 91.5%.

30 20. The use of a diffusing structure as described in one of claims 1 to 19 in a system provided with light sources.

21. The use of a diffusing structure as described in one of claims 1 to 19 in a backlighting system or in a projection system.

22. The use of a diffusing structure as described in one of claims 1 to 19,

characterized in that the substrate is one of the glass sheets constituting a backlighting system or a flat lamp.

23. The use of a diffusing structure as claimed in either of claims 21 and 22, characterized in that the substrate possesses a characteristic dimension
5 suitable for "direct light" applications.